Quality Control

Page 1 \*122457\* Work Order ID 122457 July-21-14 9:00:17 AM \*N900040100\* Setup Start Accept <sup>1</sup> D3490-1 Item ID: Revision ID: Cross Bolt Spacer Item Name: \*60\* Cust Item ID: Start Qty: 60.00 Start Date: 7/21/14 Customer: \*60\* Rea'd Otv: 60.00 Required Date: 7/21/14 Reference: Run Date: 14-07-21 Tooling: Date: Process Plan: MIJ Approvals: Stop Date: SPC (Y/N): ,QC: Date: Reject Reject Insp. Accept Tool # Plan Tool ID Set Up/ Operation Sequence ID/ Qty Number Stamp Code Oty **Run Hours** Description Work Center ID **Revision Nbr Draw Nbr** D3490 Rev A 0.00 100 Hardinge CNC LATHE SMALL \*100\* 0.00 Hardinge Memo 1-TURN AS PER/FOLIO FA628 & DWG D3490 Hardinge CNC Lathe Small FOLIO REV: NA 2-DEBURR AS REQUIRED 14.07-24 QC2- Inspect parts off machine FAI/FAIB 0.00 110 \*110\* 0.00 Memo Quality Control QC8- Inspect parts - second check 0.00 120 \*120\* 0.00 QC Memo

DQA: Date:					- ``DART										
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		Cracks			L	Broken/Damage/Defect	L	Hardwa	are	<u>_</u>	Part Incorre	<b>+</b>	Temperature/Cure		
		Crimp/Kii	nk/Ripple	e/Wave		Burrs	┕	Inspect	tion Incomplete/Ur	nqualified	Part Lost/M	issing	Weld		
		Cuffs				Contamination		-	tions Incomplete/U	Jnclear	Part Moved	L	Wrong Stock Pulled		
		Crushing				Countersink		4 '	gned/off center	_	Positioned \		<b>_</b>		
		Heat Trea				Cut Too Short	_	Mislab		L	Power Loss/	'Surge [	Other		
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1	1	Wave/Tw	vist in Tul	he		Fit/Function	1	1Out of	Sequence						

#### Work Order ID 122457

\*122457\*

July-21-14 9:00:17 AM

Item ID:

D3490-1

Accept

\*N900040100\*

Setup Start

Revision ID:

Item Name:

Cross Bolt Spacer

7/21/14 Start Date: Required Date: 7/21/14 **Start Qty: 60.00** 

Req'd Qty: 60.00

\*60\* \*60\* **Cust Item ID:** 

**Customer:** 

Tool ID

Reference:

Approvals:

Process Plan:

Date:

**Tooling:** 

Run

QC:

Date:

SPC (Y/N):

Date: Date:

Tool # Plan

Code

Stop

Reject

Number

Start

Reject

Qty

Insp.

Stamp

Sequence ID/ Work Center ID

Operation Description

Identify as per dwg & Stock Location:

Set Up/ **Run Hours** 

0.00

\*120\*

Packaging Packaging

130

Memo

0.00

CLEAN CROSSBOLT SPACER WITH ALUMINUM CLEANNER

\*\*\*STOCK IN SKIDTUBE CELL\*\*\*

140

QC21- Final Inspection - Work Order Release

0.00

\*140\*

Memo

0.00

**Quality Control** 

Accept

Qty

MLJ 14-08-15

DQA: Date:								*DART					
QA Closed:			Date:			WORK ORDER NON	-CC	ONFO	RMANCE / UPDATE	W	ork Order up	date only	AEROSPACE
Work Order:						DISPOSITION		AGAI					
work Orde	er: -					Rework	ı İ	Skid-tube Crosstu			1	Engineering	
Part No.				Scrap			Machining Small		Pro	Water Jet d. Eng. Coor.	Quality		
raitiv	··· -				<del></del>	Use-as-is				hing	-	re/Packaging	Other
NCR N	NCR No.				Suspected Unapproved		111611	Large Fab Compo		]	Supplier		
Root					Desci	ription of work order update		nitial	Action		Sign &		
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
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		Crimp/Ki	nk/Ripple	e/Wave		Burrs	<u> </u>	-1 '	tion Incomplete/Unqualified	L	Part Lost/Mi	ssing	Weld
		Cuffs			<u> </u>	Contamination	<u></u>	- 4	tions Incomplete/Unclear	ļ.	Part Moved		Wrong Stock Pulled
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		Heat Trea				Cut Too Short		Mislab			Power Loss/	Surge	Other
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		Marks/Cl	natter		L	Drill Holes	$\perp$	Off-set					
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1		Wave/Tw	vist in Tul	be	- 1	Fit/Function	1	Out of	Sequence				

H:/FORMS/Quality Assurance\approved QA/NCRWO RevH

### **Picklist Print**

July-21-14 9:00:22 AM

Work Order ID: 122457

\*122457\*

Parent Item:

D3490-1

\*D3490-1\*

Parent Item Name: Cross Bolt Spacer

**Start Date: 7/21/14** 

Required Date: 7/21/14

**Start Qty:** 60.00

Required Qty: 60.00

Comments:

IPP Rev:A New Issue 06-03-03 JLM

Component It	tem ID/
Item Name	

Replacement Mfg/ Item ID

Purch

Primary Item Location Last Location Route Seq ID Unit of Measure Hand

Qty on

Qty per Kit Total Qty

x24

Qty Issued Date Status

Issued

M6061T6T0.500W.049

Purchased

No

100

127.0000

\*\*

0.266 17

\*M6061T6T0 500W 049\*

6061-T6 RD Tube .500 x.049W

Loc Code Loc Qty Location 127 MAT014 14 m126335 113 m129188

RT 14-07-24

DQA:			Date:			- `DART										
			_			WORK ORDER NON-	-CC	ONFO	RMANCE / UP				_   •	AEROSPACE		
QA Closed:			Date:							V	Vork Order up	odate only				
Work Orde	۰r،					DISPOSITION				AGAINST D	EPARTMENT					
Work Orac	• • •					Rework		Skid-tube Crosstub			7	Water Jet	Eng	gineering		
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	<b>-</b>	Quality		
						Use-as-is		Thermoforming Finishi			Rec/Sto	re/Packaging		Other		
NCR No.					Suspected Unapproved		Large Fab Compos			<u>]</u>	Supplier					
Root					Desci	ription of work order update	ı	nitial	Actio	on	Sign &					
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descrip	otion	Date	Verification		QC Inspector		
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		Crimp/Kir	nk/Ripple	e/Wave	-	Burrs		4	tion incomplete/Unq	ualified	Part Lost/M	<b>-</b>	Weld			
		Cuffs	ypp.c	.,		Contamination		<b>-</b> '	tions Incomplete/Un	· —	Part Moved		Wro	ng Stock Pulled		
	Crushing					Countersink	Г	4	gned/off center	-	Positioned \	Vrong –		_		
	Heat Treat				Cut Too Short		Mislab	<del>-</del>		Power Loss/		Othe	er			
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ļ		Marks/Ch				Drill Holes		Off-set	:							
		Turning S		<b>:</b>		Finish		Out of	Calibration							
		Wave/Tw	vist in Tul	be		Fit/Function		Out of	Sequence							

DART AEROSPACE LTD	Work Order:	12245+
Description: Crossbolt Spacer	Part Number:	D3490-1
Inspection Dwg: D3490 Rev: A		Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.500	+0.006/-0.001	0.499			ven	FT-4
0.049	+/-0.010	0.048				
Ø0.402	+0.006/-0.001	0.405				
3.085	+0.030/-0.000	3.105				
0.050 x 45°	+/-0.010	0.050				
						,
	-					-
			<u> </u>			

Measured by: O2
Date: 14/07/14

Prototype Approval: N/A

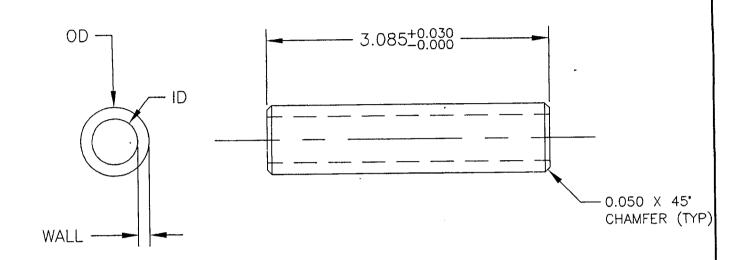
Date: 14/07/14

Date	Change	Revised by	Approved
6 10.06	New Issue	KJ/JLM	
	Dimensions and tolerances revised	KJ/DD LA	
		KJ/DD 👭	N.
)	6.10.06 8.06.02	6.10.06 New Issue 8.06.02 Dimensions and tolerances revised	6.10.06 New Issue  8.06.02 Dimensions and tolerances revised  KJ/JLM  KJ/DD

DQA:			Date:										DART
						<b>WORK ORDER NON</b>	-CC	ONFO	RMANCE / UP			_	AEROSPACE
QA Closed:			Date:							w	ork Order up	date only	
Work Orde	r.					DISPOSITION							
Work Orde	٠ -			<u> </u>		Rework	ıl		Skid-tube	Crosstube	7	Water Jet	Engineering
Part N	o.					Scrap	l		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
				Use-as-is			noforming	Finishing		re/Packaging	Other		
NCR No.				Suspected Unapproved		i	Large Fab	Composite	1	Supplier			
										_			
Root					Desc	ription of work order update	ı	nitial	Acti	on	Sign &		
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	ption	Date	Verification	QC Inspector
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Handling/Pre	4												
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Transport	ᅥ						ĺ						
Unapproved	$\dashv$												
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		Bending		,		Bend		Folio/F	Program		Outside Dim	ensions	Pressure/Forced
		Centre No	t Concer	ntric	` [	BOM/Route		Grain			Over/Under	tolerance	Set-up
[		Cracks				Broken/Damage/Defect		Hardwa	are	_	Part Incorre	cí [	Temperature/Cure
	Crimp/Kink/Ripple/Wave				Burrs		Inspect	ion Incomplete/Un	qualified	Part Lost/Mi	issing	Weld	
		Cuffs				Contamination		4	tions Incomplete/U	nclear	Part Moved	!	Wrong Stock Pulled
		Crushing				Countersink		-1	gned/off center	L	Positioned V		_
	Heat Treat				Cut Too Short		Mislabe			Power Loss/	Surge	Other	
	Inspection Strip in Tube				Drawing		Misrea						
	Marks/Chatter				Drill Holes		Off-set						
	_	Turning S			<u> </u>	Finish	$\vdash$	4	Calibration	4.			
		Wave/Tw	ist in Tub	e		Fit/Function	1	Out of	Sequence				



	DESIGN	PH	DRAWN BY	DART	AEROSPACE PORT HADLOCK,	
	CHECK	ED	APPROVED	DRAWING NO.		REV. A
		-#-	4	D3490		SHEET 1 OF 1
	DATE			TITLE		SCALE
	06.0	1.04		CROSS BO	OLT SPACER	NTS
_	Δ		06.01.04	NEW ISS	UE	



## D3490-1/-3/-5 CROSS BOLT SPACER PARTS LIST

PART NUMBER	OD	WALL	ID (REF)	MATERIAL SPEC
D3490-1	0.500	0.049	0.402	M6061T6T0.500W.049
D3490-3	0.750	0.080	0.591	M6061T6R0.750
D3490-5	0.313	0.058	0.197	M6061T6T0.313W.058

### D3490-1/-3/-5 CROSS BOLT SPACER

ALUMINUM 6061-T6 (QQ-A-200/8 OR QQ-A-225/8) 1)

ALL DIMENSIONS ARE IN INCHES 2)

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



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DQA:			Date:			- WORK ORDER NON CONSORMANCE (LIREATE									
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						DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Work Orde	er:					DISPOSITION	. 1			Adamsi bi	-, -,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,		
Part No.						Rework Scrap		Skid-tube Crosstuk  Machining Small Fa				Water Jet d. Eng. Coor.	Engineering Quality Other		
NCR No.						Use-as-is Suspected Unapproved		Thermoforming Finish  Large Fab Compos			Rec/stor	e/Packaging Supplier	Other		
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Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	iption	Date	Verification	QC Inspector		
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Doc/Data	Ш							į							
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	ιIW	Jave/Tw	ist in Tub	26	1	Fit/Function	1	1Out of 9	Sequence						